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VA Puget Sound Health Care System
VA Portland Health Care System

Use of Trauma-Focused Interventions in the Veterans Health Administration: Implications for Providing Care to Veterans with Comorbid PTSD and Substance Use Disorders

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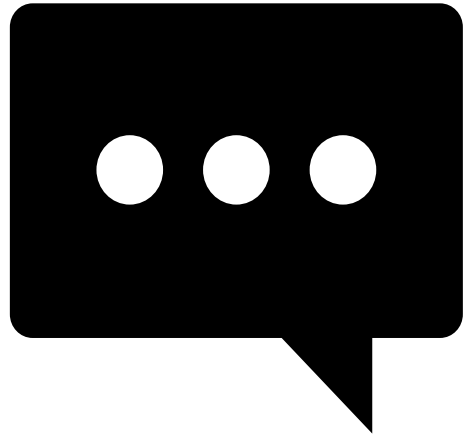
Objectives

- Discuss and challenge common myths in the literature around treatment for co-occurring PTSD-SUD
- Provide an overview of patterns of evidence-based psychotherapy (EBP) health service utilization of individual PE and CPT within the VHA for co-occurring PTSD-SUD
- Give an overview of clinical implications for using trauma-focused interventions to treat PTSD-SUD based on nation-wide VHA administrative data



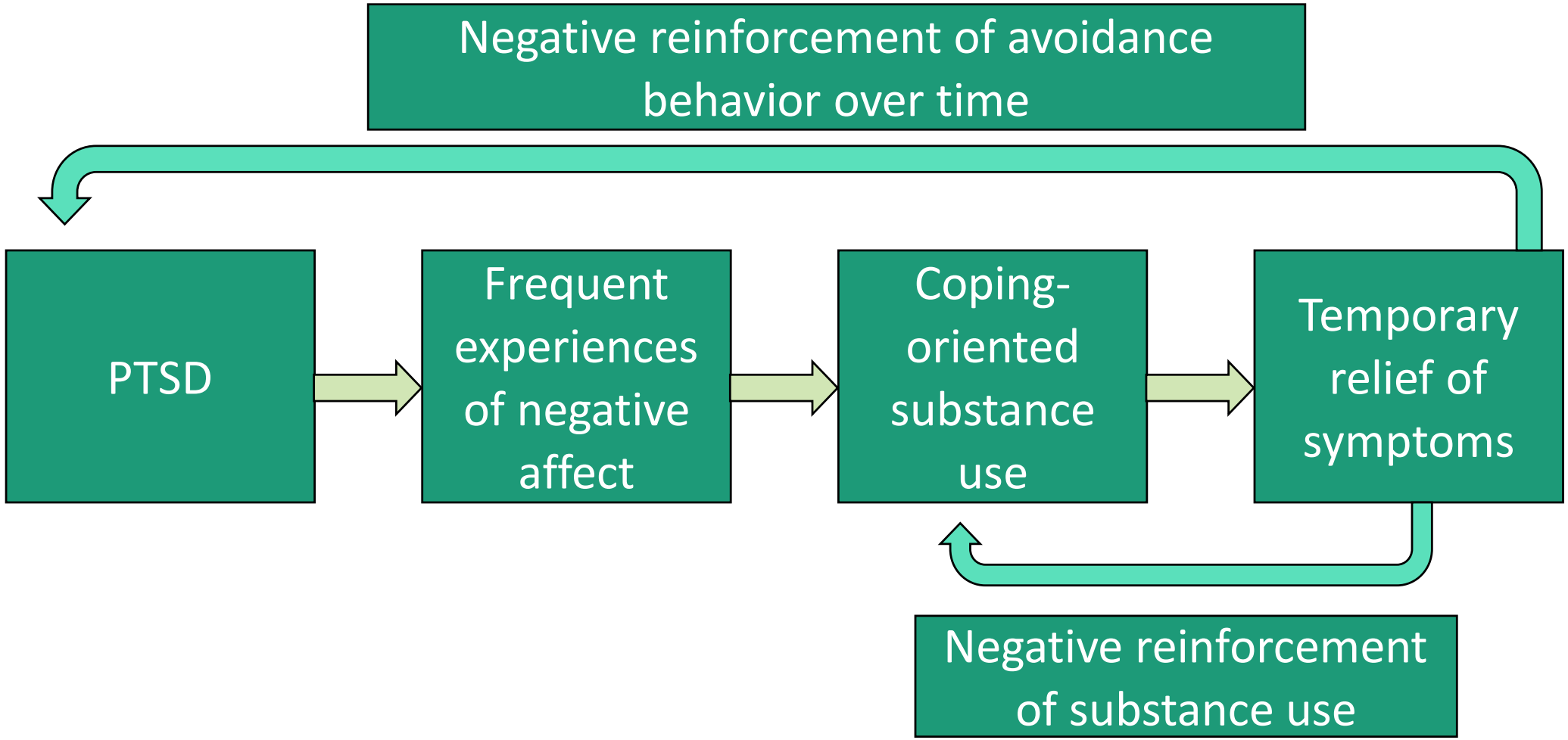
What percentage of your caseload has a diagnosis of co-occurring PTSD and substance use disorder (PTSD-SUD)?

PTSD and Co-Occurring SUD

- Commonly comorbid [1]
- Poorer prognosis than PTSD alone [2]
- Veterans more at risk than civilians [2]
- Veterans with PTSD-SUD at greater risk for other harms including:
  - Health-related stressors [3]; More severe medical and psychiatric symptomology [4,5]; Suicide [5]
  - Legal problems [6]
  - Homelessness [7]
  - Aggression [8]; Intimate partner violence [9]

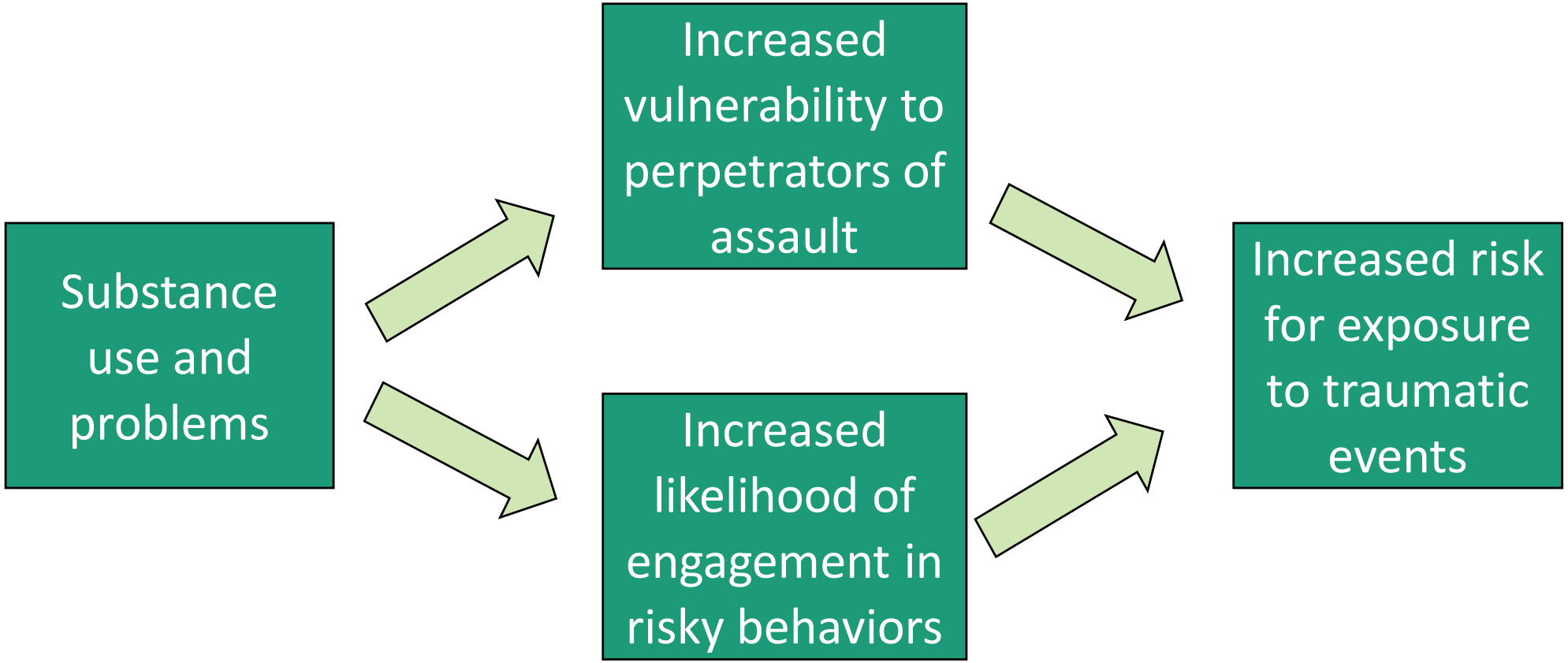
Development of Comorbid PTSD-SUD

Self-Medication Hypothesis [8]



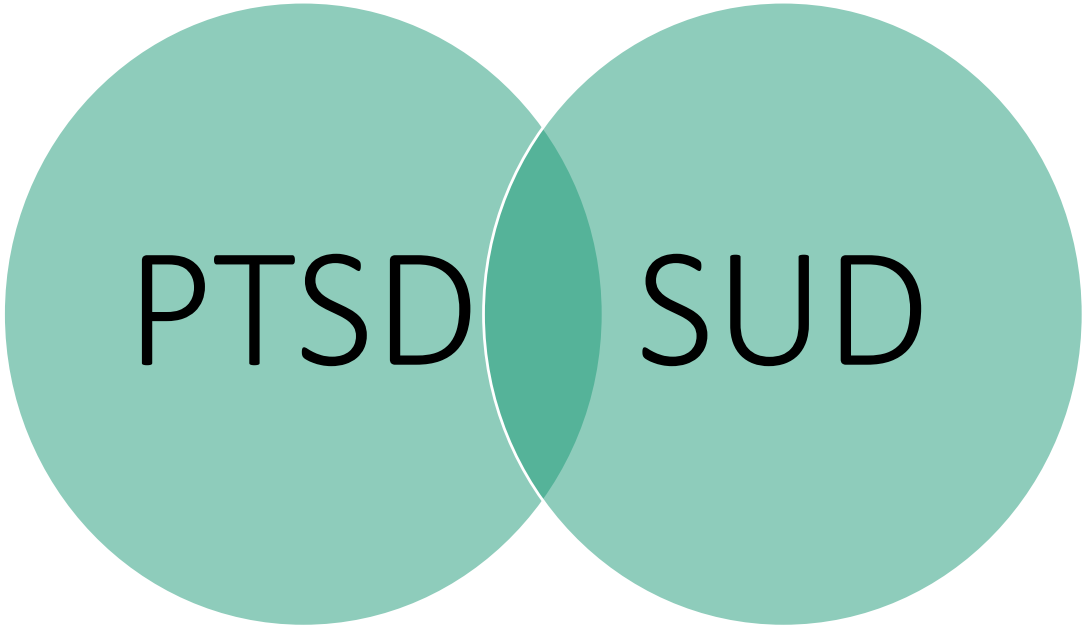
Model from Berenz, McNett & Paltell, 2019 [10]

Susceptibility/High Risk Model [9]



Model from Berenz, McNett & Paltell, 2019 [10]

Shared Liability Hypothesis [18]

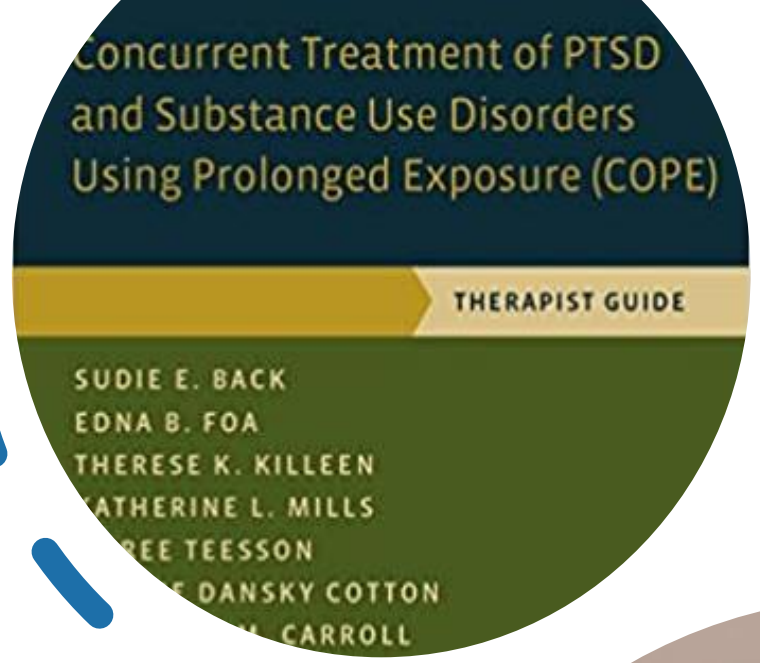


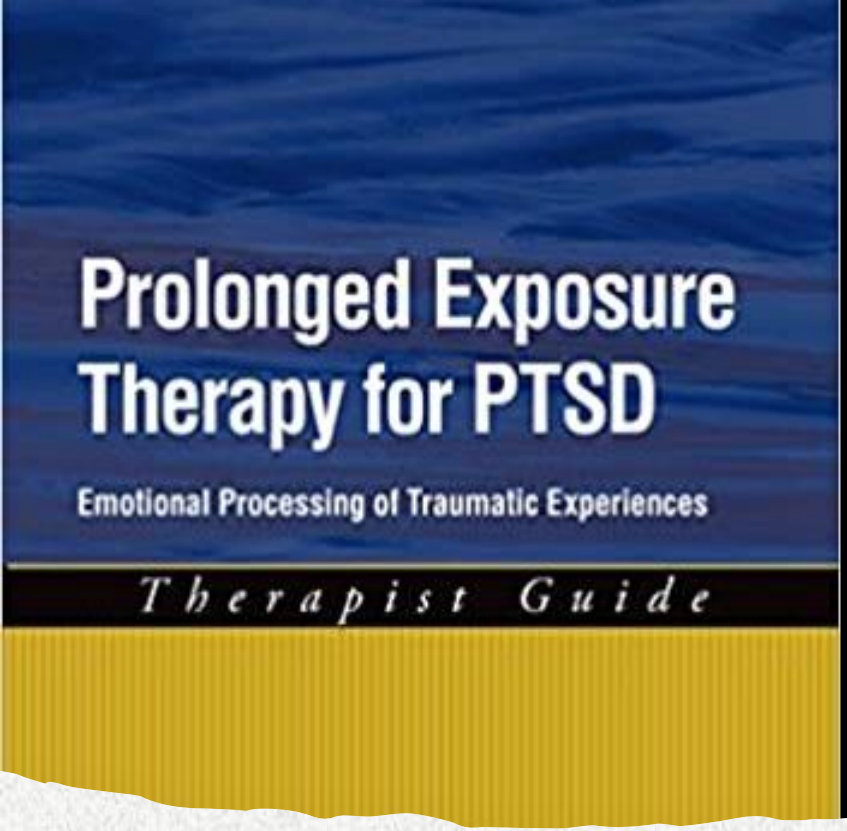
- Moderate overlap in phenotypes for PTSD and substance dependence
  - Evidence mixed
- Lack of diversity among twin studies

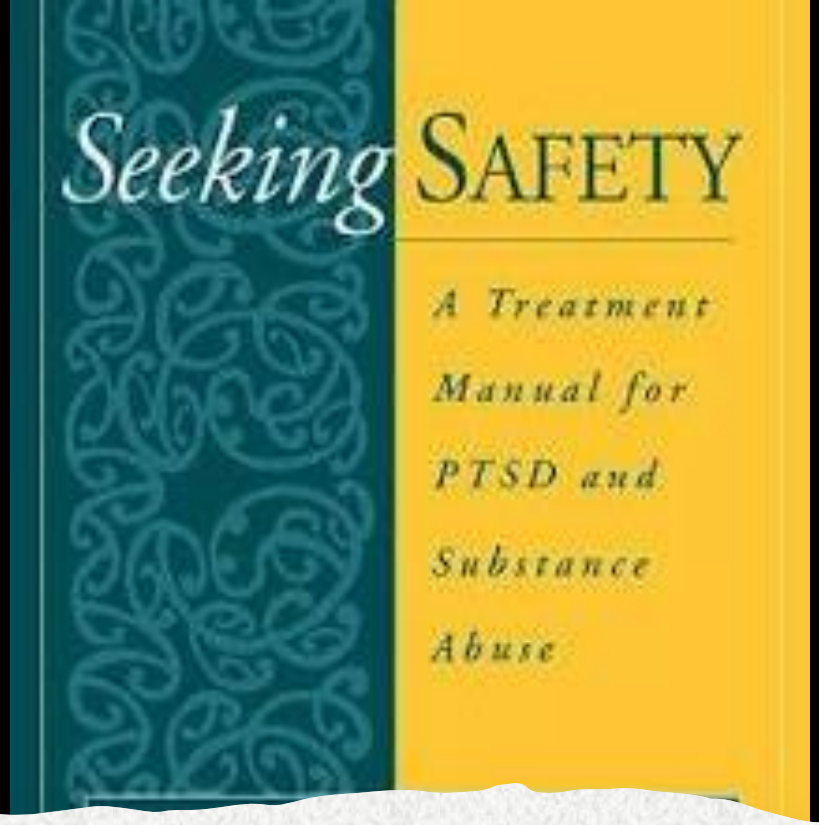
Implementing EBPs for PTSD-SUD

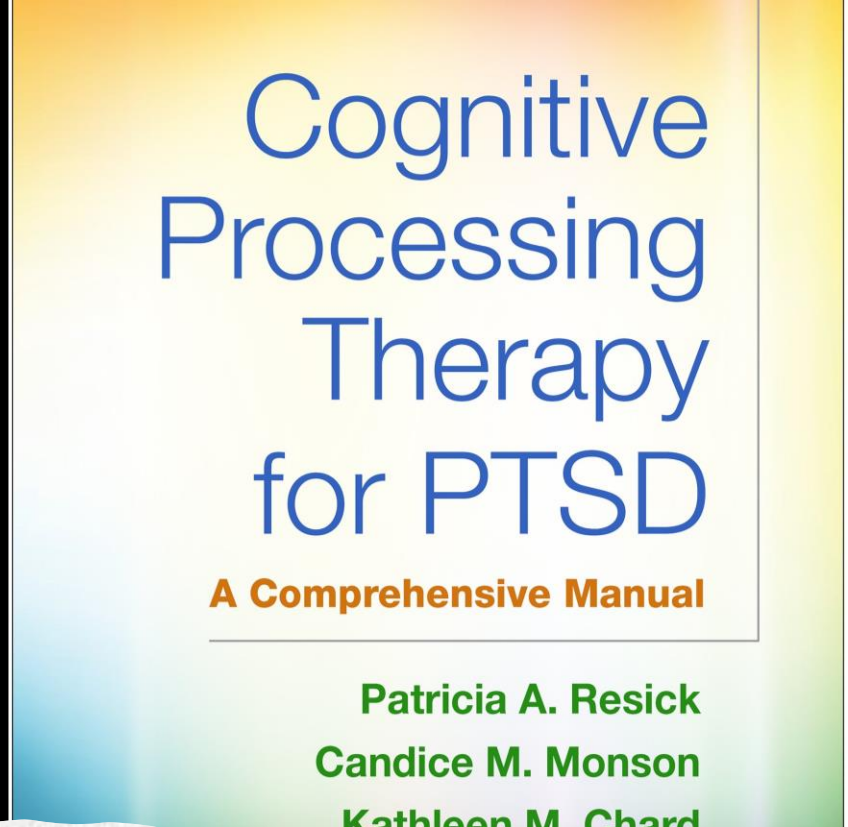
Evidence-Based Treatment of PTSD-SUD

- Concurrent Treatment of PTSD and SUD using Prolonged Exposure (COPE; Back et al., 2019)
- Trauma-focused + pharmacologic component (Foa et al., 2013)









- Prolonged Exposure
- Cognitive Processing Therapy
- Seeking Safety

What are some barriers to providing trauma-focused treatment for veterans with comorbid PTSD-SUD?

Clinical Myths

Integrated treatment most effective, yet these guidelines not consistently followed

Clinician training issues

(Gielen et al., 2014)

Secondary gain concerns

(Bujarski et al. 2016)

Patient attitudes toward treatment

Stigma associated with treatment seeking higher in SUD population

(Luoma et al., 2017)

Clinician fears that concurrent treatment will exacerbate symptoms

(Lancaster et al., 2019)

Research on Trauma-Focused Treatment for PTSD-SUD

- Symptom exacerbation hypothesis may be false [14,19]
- Individuals with comorbid SUD are beginning to be included in clinical trials for PTSD interventions [19,20]
- Little known about how participants with PTSD-SUD in naturalistic settings respond to EBPs for PTSD
- Access to Electronic Health Record data can help understand EBPs outside of the "laboratory"

Purpose of Our Research

1

Elucidate patterns of EBP initiation and completion within the VHA at a population level

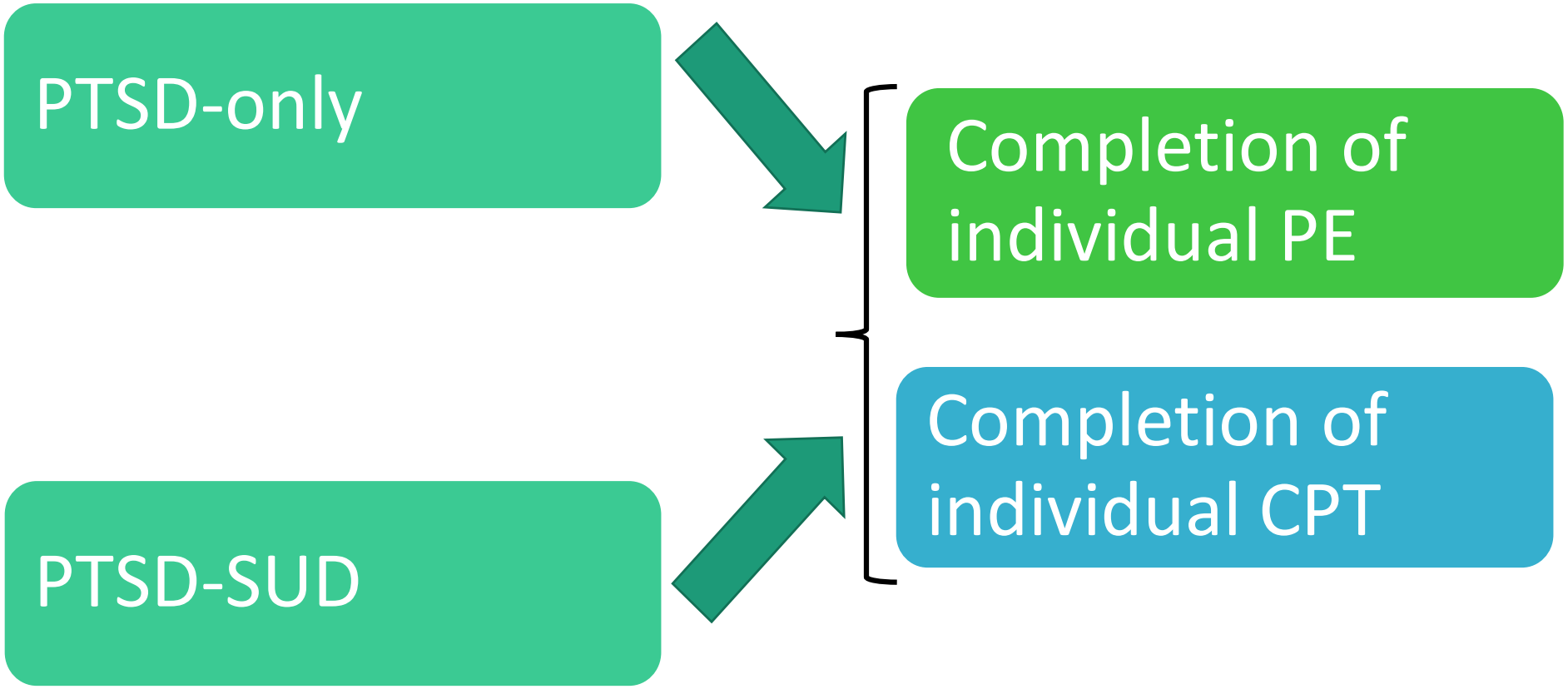
2

Better understand trauma-focused care initiation/completion in dually diagnosed Veterans

3

Provide implications for mental health clinicians treating dually diagnosed Veterans based on population-wide health service utilization data

Investigating Trauma-focused Care Completion Rates in the VHA



Study Design

Retrospective case-control study

Time period: January 1st, 2015 and December 31st, 2019

Source population:

- At least 10 unique visit days in the VHA during study period
- Positive PC-PTSD screen
- Diagnosis of PTSD within 1 year of first positive PC-PTSD screen

Cases: Veterans with at least one health factor for CPT or PE within 1 year for incident PTSD diagnosis

Controls: Veterans with an incident PTSD diagnosis between 2015 and 2019 that did not engage in CPT or PE

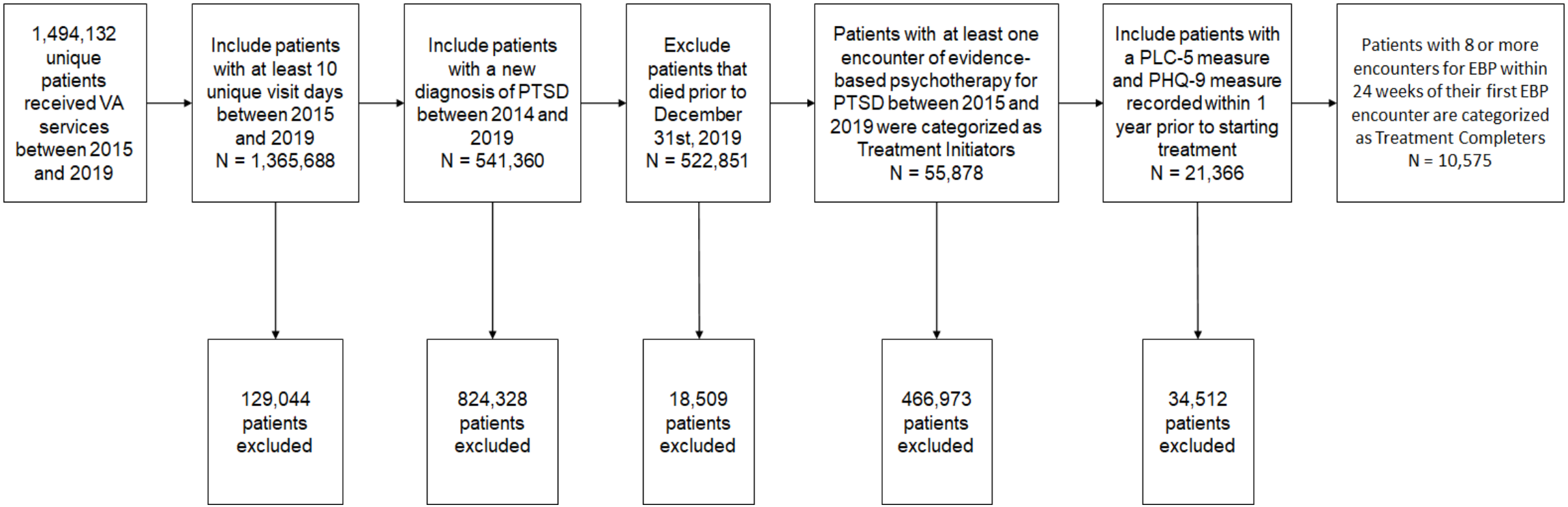
All data was gathered from the VA's Corporate Data Warehouse

- Extracted all encounters from VA clinic stop codes 501–599
- Demographics, diagnoses were based on ICD codes, all PTSD and Depression symptom measures from MH Assistant

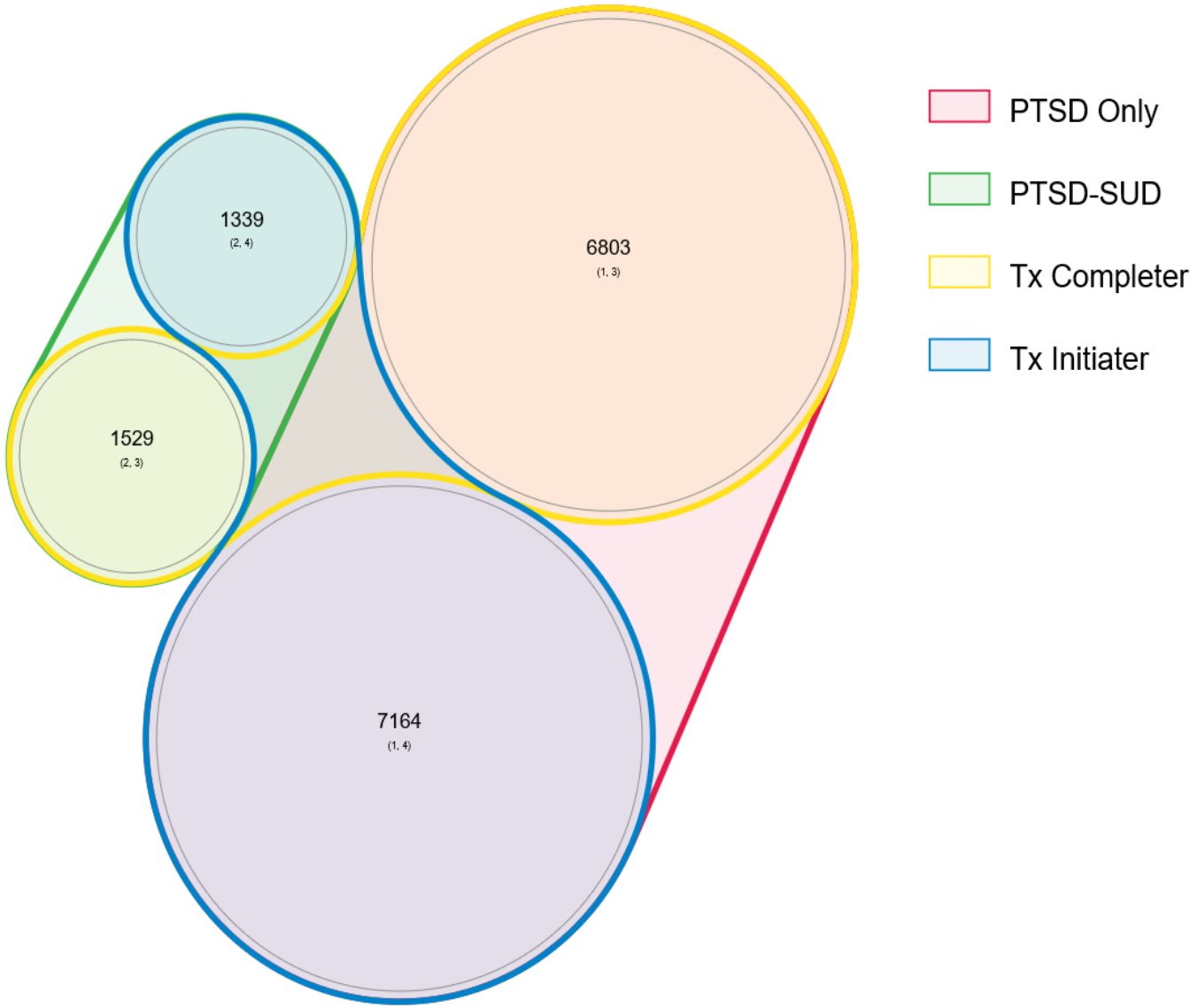
Definitions

- **Diagnosis of PTSD:** One inpatient ICD-9/10 code for PTSD or at least two outpatient ICD-9/10 codes for PTSD within any 1-year window by a mental health professional (VA clinic stop codes 501–599)
- **Health Factor:** a discrete data field automatically generated by use of EHR structured note template
- **Engagement in EBP for PTSD:** First encounter in a mental clinic with a Health Factor for for Cognitive Processing Therapy or Prolonged Exposure
- **Complete dose of EBP for PTSD:** 8 or more encounters with a Health Factor for Cognitive Processing Therapy or Prolonged Exposure within a 24 weeks of the first encounter

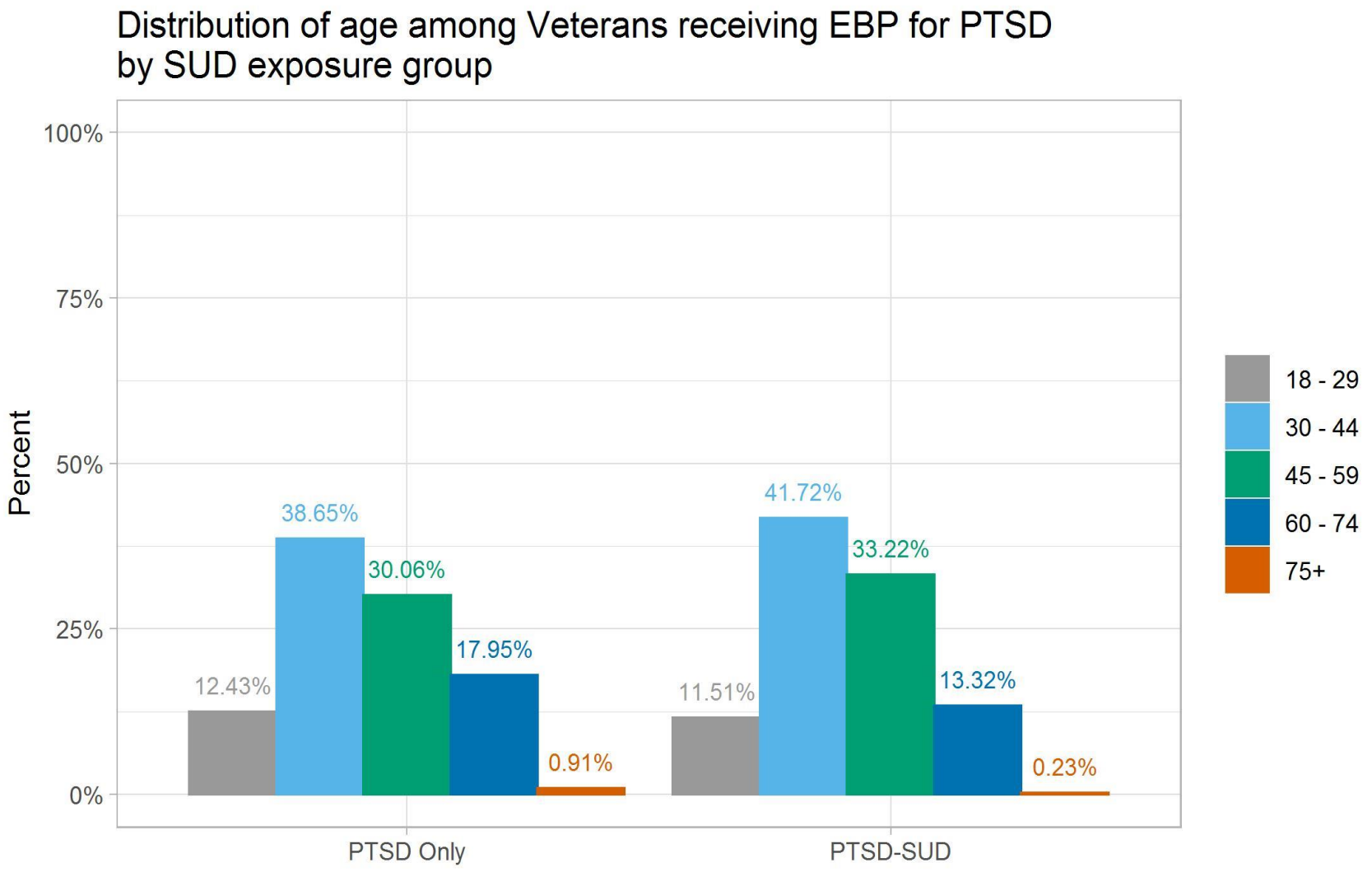
Inclusion & Exclusion criteria



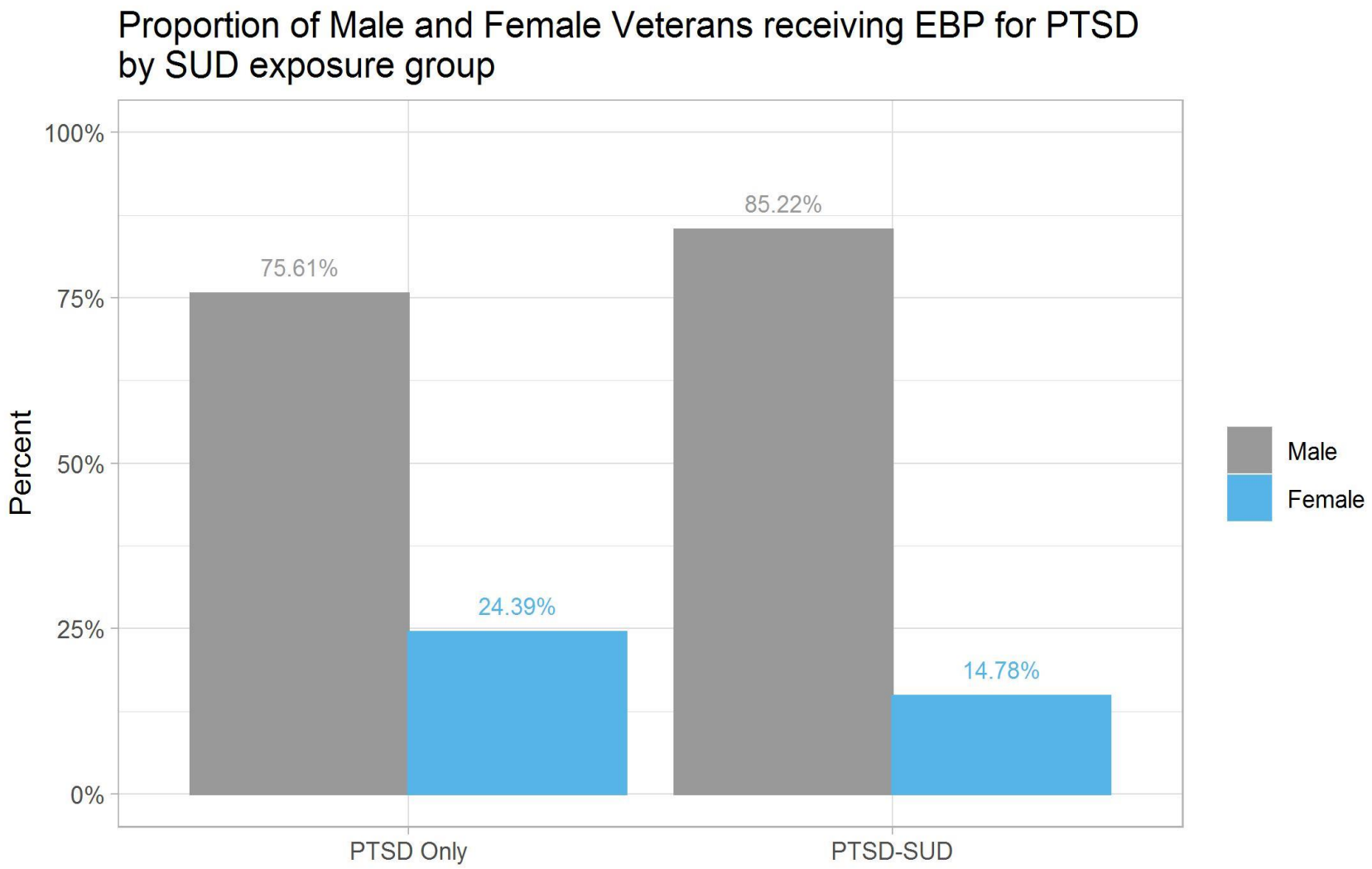
Sample size by exposure & outcome



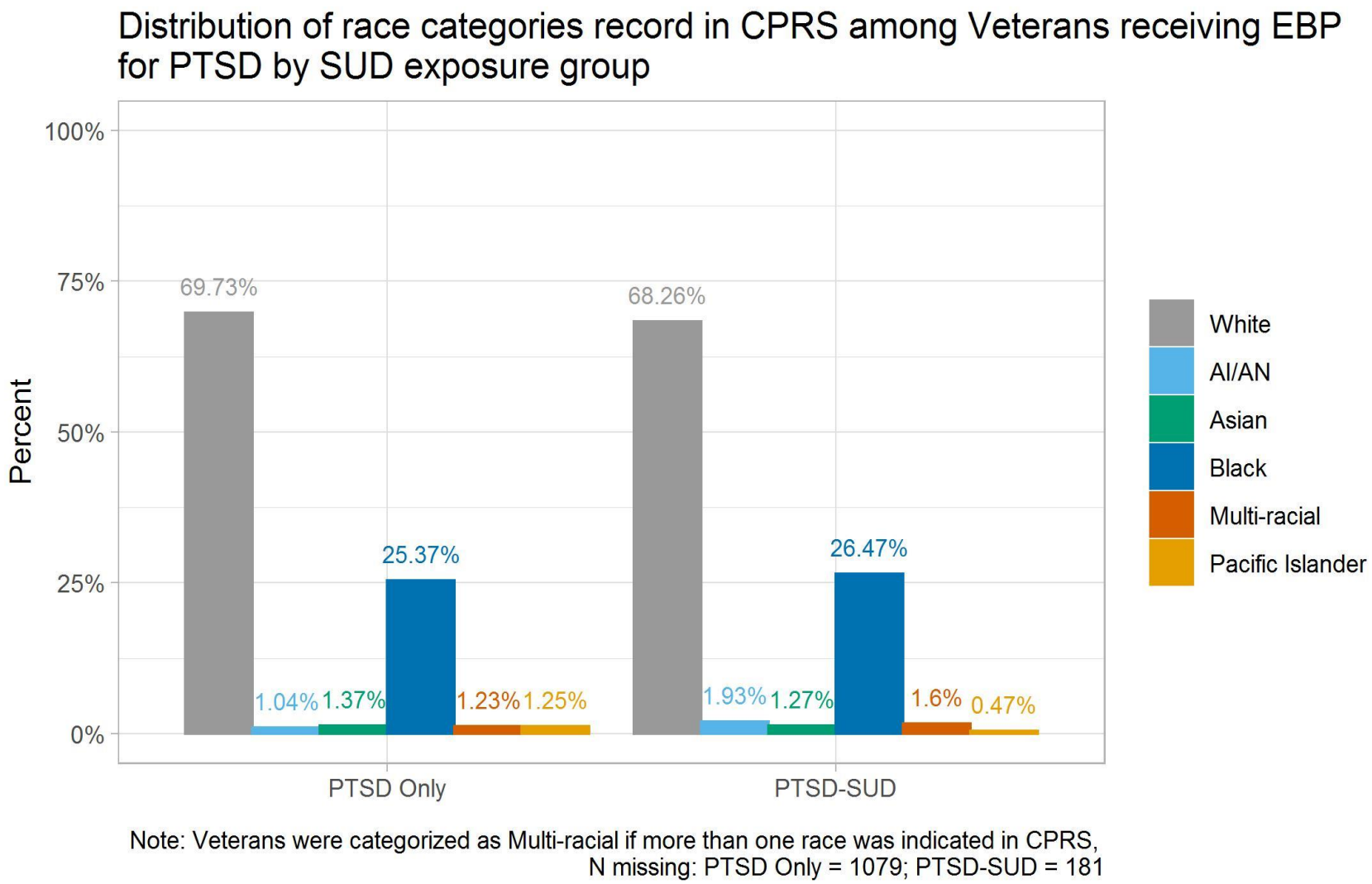
Age


Distribution of age among Veterans receiving EBP for PTSD by SUD exposure group
Percent
100%
75%
50%
25%
0%
12.43%
38.65%
30.06%
17.95%
0.91%
11.51%
41.72%
33.22%
13.32%
0.23%
PTSD Only
PTSD-SUD
18 - 29
30 - 44
45 - 59
60 - 74
75+

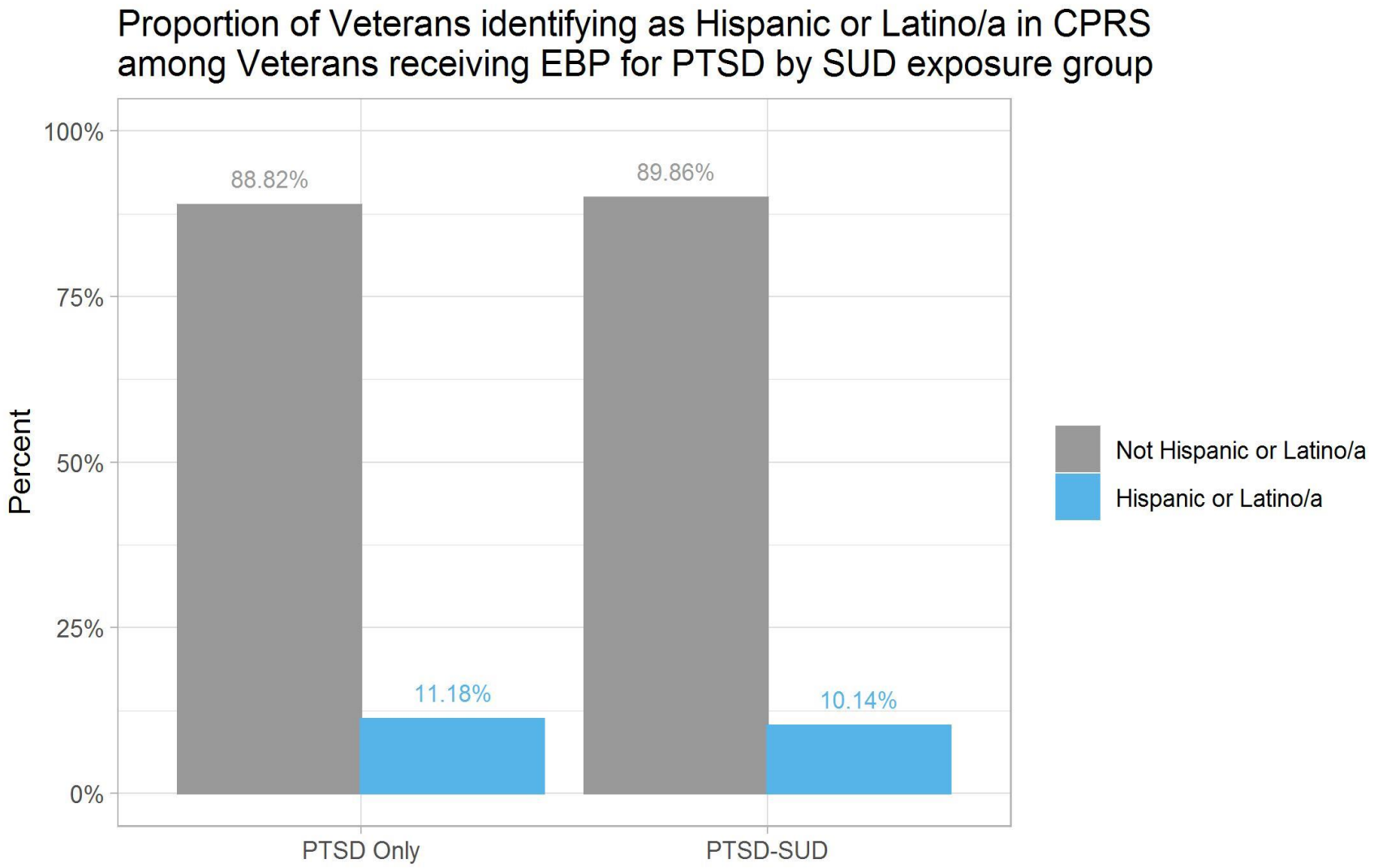
Gender


Proportion of Male and Female Veterans receiving EBP for PTSD by SUD exposure group
Percent
100%
75%
50%
25%
0%
75.61%
24.39%
85.22%
14.78%
PTSD Only
PTSD-SUD
Male
Female

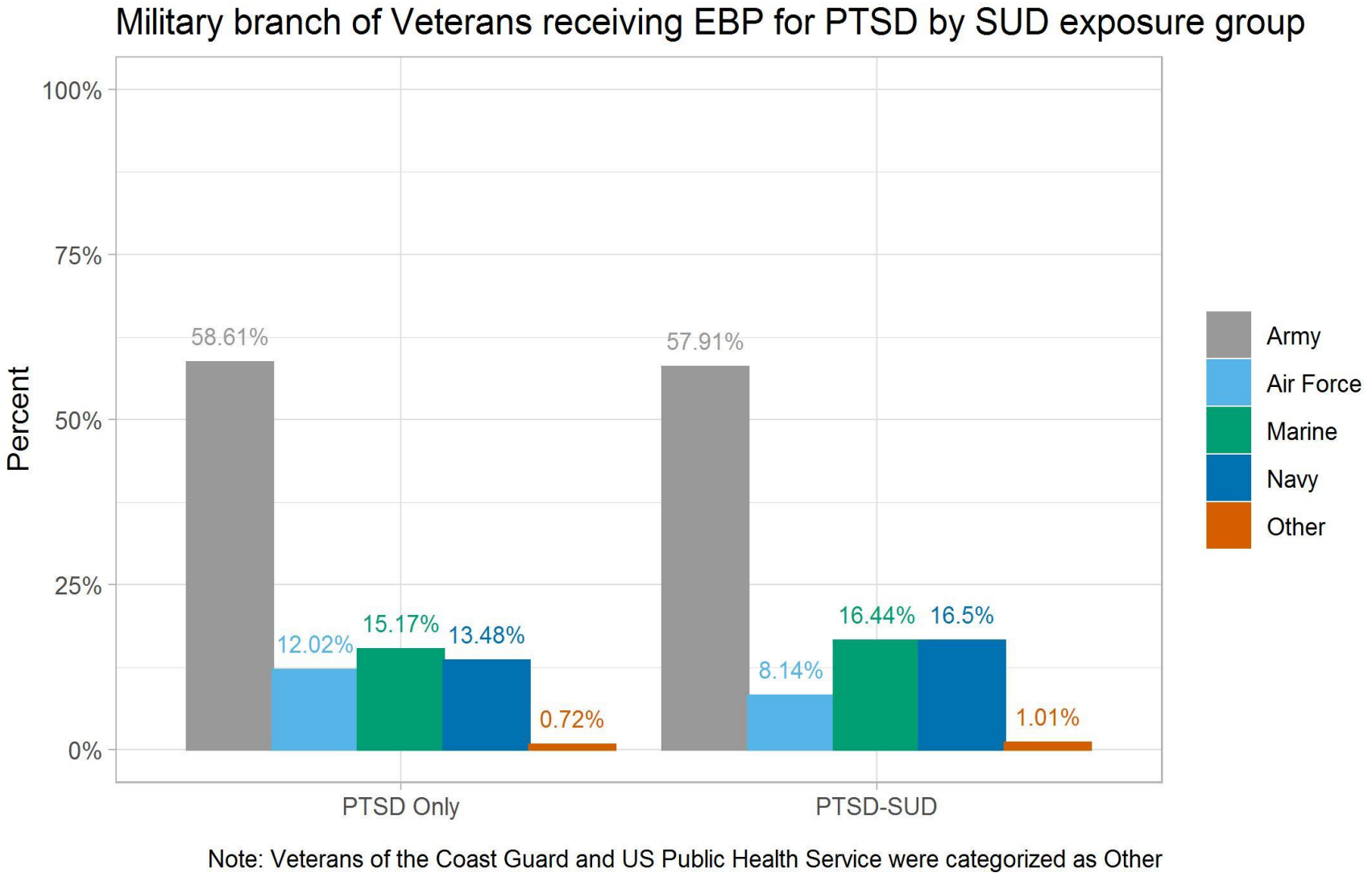
Race


Distribution of race categories record in CPRS among Veterans receiving EBP for PTSD by SUD exposure group
Percent
100%
75%
50%
25%
0%
69.73%
1.04%
1.37%
25.37%
1.23%
1.25%
68.26%
1.93%
1.27%
26.47%
1.6%
0.47%
PTSD Only
PTSD-SUD
White
AI/AN
Asian
Black
Multi-racial
Pacific Islander
Note: Veterans were categorized as Multi-racial if more than one race was indicated in CPRS,
N missing: PTSD Only = 1079; PTSD-SUD = 181

Ethnicity

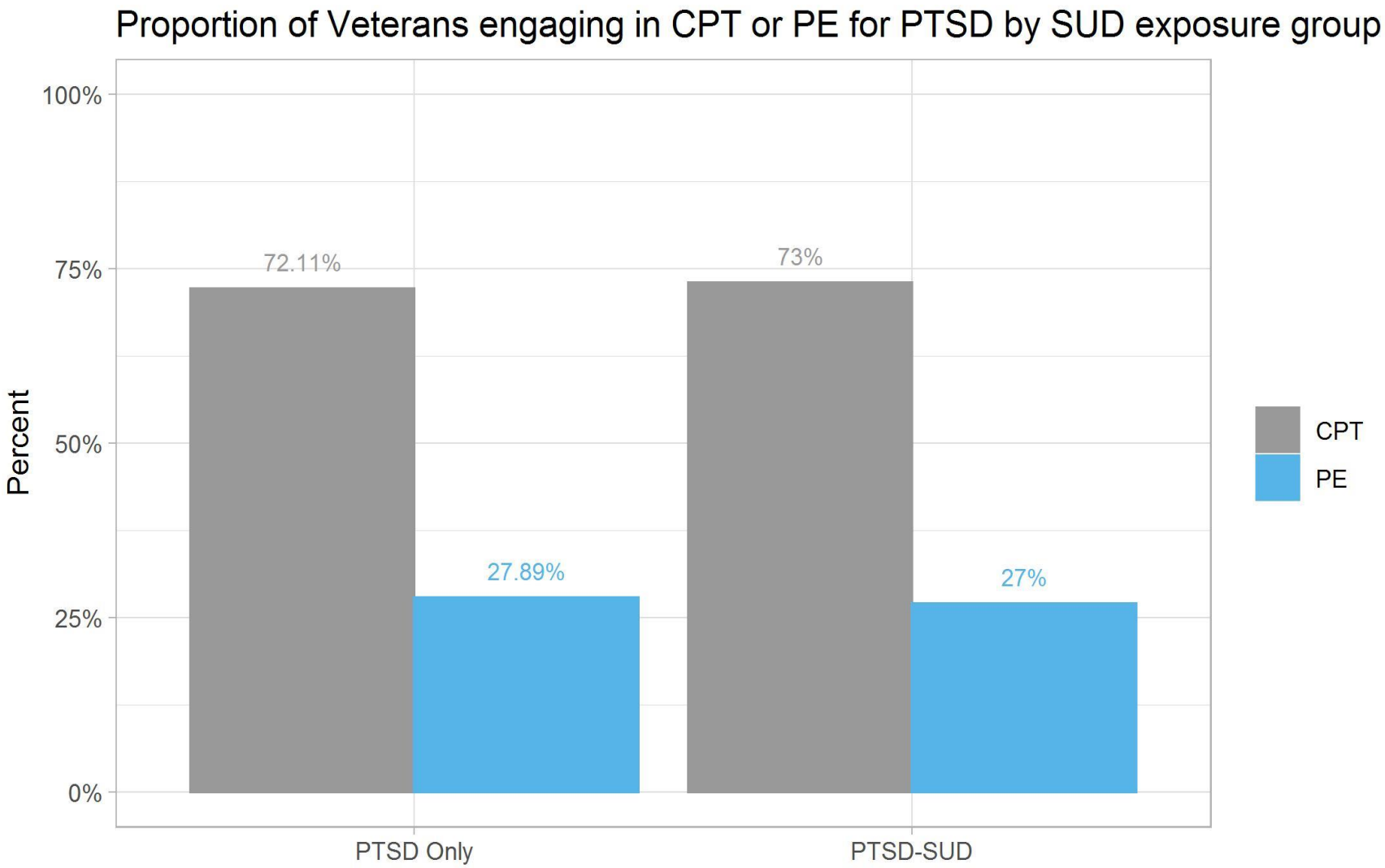

Proportion of Veterans identifying as Hispanic or Latino/a in CPRS among Veterans receiving EBP for PTSD by SUD exposure group
Percent
100%
75%
50%
25%
0%
88.82%
11.18%
89.86%
10.14%
PTSD Only
PTSD-SUD
Not Hispanic or Latino/a
Hispanic or Latino/a

Military Branch

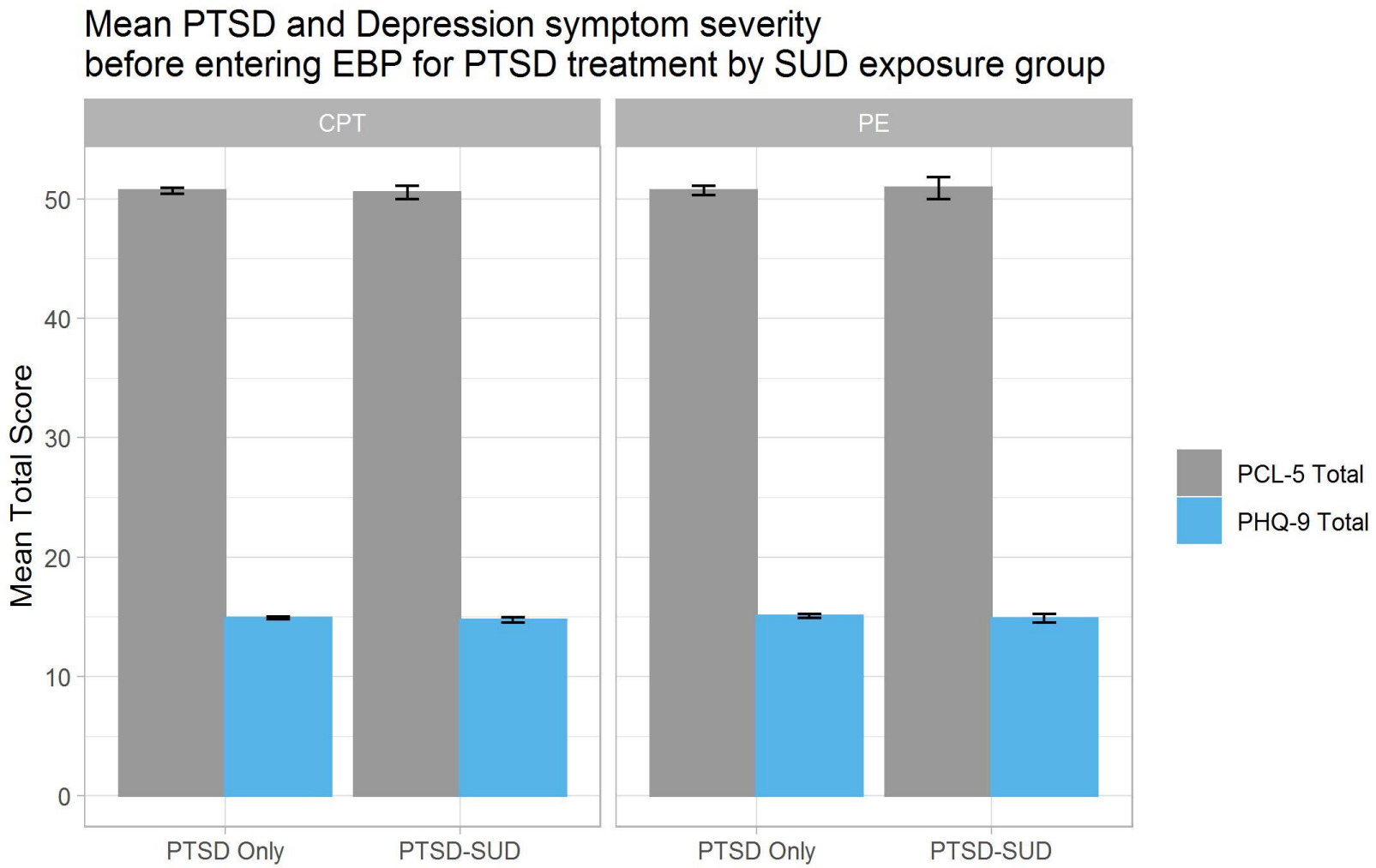


Note: Veterans of the Coast Guard and US Public Health Service were categorized as Other

EBP Type


Proportion of Veterans engaging in CPT or PE for PTSD by SUD exposure group
Percent
100%
75%
50%
25%
0%
72.11%
27.89%
73%
27%
PTSD Only
PTSD-SUD
CPT
PE

Baseline symptom severity



Research Questions

- **Hypothesis (1):** Veterans with comorbid PTSD and SUD will complete EBPs for PTSD at a lower rate compared to veterans with PTSD only.
- **Hypothesis (2):** Given the current literature, we hypothesized that the proportion of veterans with comorbid PTSD and SUD that complete PE will be lower than the proportion of veterans with comorbid PTSD and SUD that complete CPT.

Comparison of treatment completion between Veterans with PTSD compared to comorbid PTSD and SUD

- Veterans with comorbid PTSD and SUD were more likely to complete treatment than Veterans with PTSD-only
- Asian Veterans were more likely to complete treatment and Black or AI/AN Veteran were less likely to complete treatment compared to white Veterans
- Air Force and Marine Veterans were more likely to complete treatment compared to Army Veterans
- Veterans with a history of MST were more likely to complete treatment compared to Veterans without a history of MST

		Crude		Adjusted	
		OR	95% CI	OR	95% CI
	PTSD only	-		-	
	PTSD-SUD	1.23	(1.14, 1.32)	1.31	(1.21, 1.41)
Age	18-29			-	
	30-44			1.13	(1.03, 1.24)
	45-59			1.55	(1.41, 1.72)
	60-74			2.06	(1.84, 2.30)
	75+			2.08	(1.50, 2.88)
Gender	Male			-	
	Female			1.03	(0.94, 1.12)
Race	White			-	
	American Indian / Alaskan Native			0.74	(0.56, 0.96)
	Asian			1.39	(1.08, 1.79)
	Black			0.79	(0.73, 0.85)
	Missing			1.14	(1.01, 1.30)
	Multi-racial			0.86	(0.67, 1.10)
	Pacific Islander			0.81	(0.61, 1.06)
Ethnicity	Not Hispanic or Latino/a			-	
	Hispanic or Latino/a			0.91	(0.82, 1.00)
Marital Status	Married			-	
	Divorced			0.86	(0.80, 0.92)
	Not Married			0.95	(0.88, 1.03)
	Single			0.80	(0.69, 0.92)
	Widowed			0.82	(0.61, 1.12)
Military Branch	Army			-	
	Air Force			1.20	(1.10, 1.32)
	Marine			1.09	(1.00, 1.18)
	Navy			1.08	(0.99, 1.17)
	Other			1.17	(0.85, 1.63)
Location	Urban			-	
	Rural			0.93	(0.87, 1.00)
	Highly Rural			1.08	(0.81, 1.44)
Trauma Type	Not MST			-	
	MST			1.17	(1.08, 1.27)

Notes: OR: Odds ratio, CI: Confidence Interval, PTSD: Posttraumatic stress disorder, SUD: substance

Comparison of treatment completion between EBP types (CPT vs PE) among Veterans with comorbid PTSD and SUD

Among Veterans with comorbid PTSD and SUD...

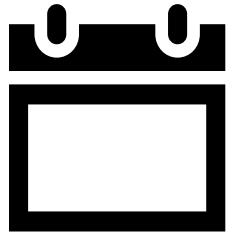
- Veterans engaging in CPT were more likely to complete treatment compared to those engaging in PE
- Black Veterans were less likely to complete treatment compared to white Veterans
- Married Veterans were more likely to complete treatment compared to non-married Veterans

		Crude		Adjusted	
		OR	95% CI	OR	95% CI
EBP	CPT	-		-	
	PE	0.72	(0.62, 0.84)	0.69	(0.59, 0.81)
Age	18-29			-	
	30-44			1.02	(0.81, 1.29)
	45-59			1.16	0.90, 1.49)
	60-74			1.49	(1.11, 2.01)
	75+			0.11	(0.01, 0.98)
Gender	Male			-	
	Female			0.83	(0.66, 1.04)
Race	White			-	
	American Indian / Alaskan Native			1.12	(0.66, 1.92)
	Asian			0.74	(0.39, 1.39)
	Black			0.76	(0.63, 0.91)
	Missing			0.94	(0.68, 1.31)
	Multi-racial			1.2	(0.67, 2.16)
	Pacific Islander			0.79	(0.28, 2.23)
Ethnicity	Not Hispanic or Latino/a			-	
	Hispanic or Latino/a			0.84	(0.65, 1.08)
Marital Status	Married			-	
	Divorced			0.82	(0.69, 0.99)
	Not Married			0.67	(0.56, 0.80)
	Single			0.96	(0.72, 1.28)
	Widowed			0.57	(0.30, 1.09)
Military Branch	Army			-	
	Air Force			1.1	(0.84, 1.43)
	Marine			1.09	(0.89, 1.33)
	Navy			1.23	(1.00, 1.50)
	Other			2.66	(1.22, 5.80)
Location	Urban			-	
	Rural			0.65	(0.35, 1.21)
	Highly Rural			0.78	(0.66, 0.92)
Trauma Type	Not MST			-	
	MST			1.18	(0.98, 1.43)

Notes: OR: Odds ratio, CI: Confidence Interval, EBP: Evidence-based psychotherapy, PTSD:

Future Directions

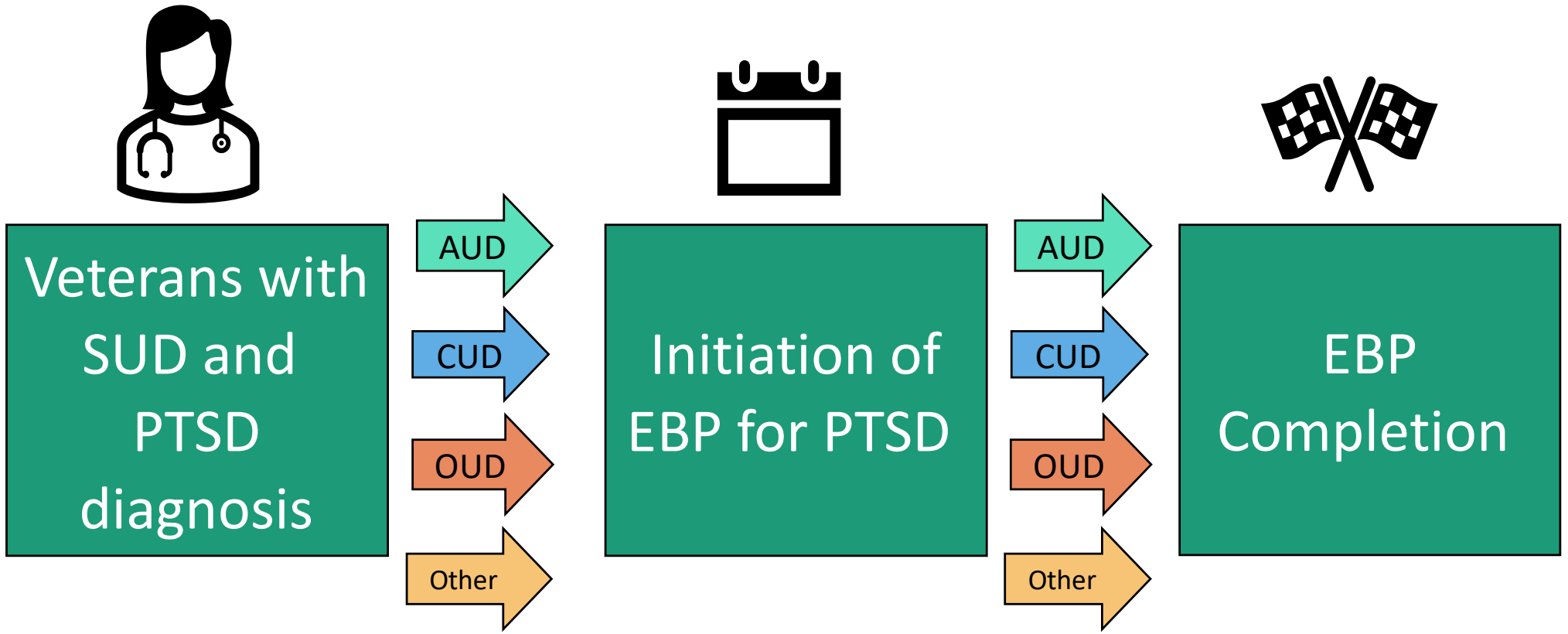
Among Veterans with SUD diagnosis, who initiates treatment after receiving a PTSD diagnosis?



Veterans with SUD and PTSD diagnosis

Initiation of EBP for PTSD

Do rates of initiation and completion differ among subtypes of SUDs?



What factors are associated with EBP initiation and completion among Veterans with comorbid PTSD-SUD?

Predisposing factors:

- Age
- Race/Ethnicity
- Marital Status

Health System factors:

- EBP provider case load
- Access to SUD specialty care

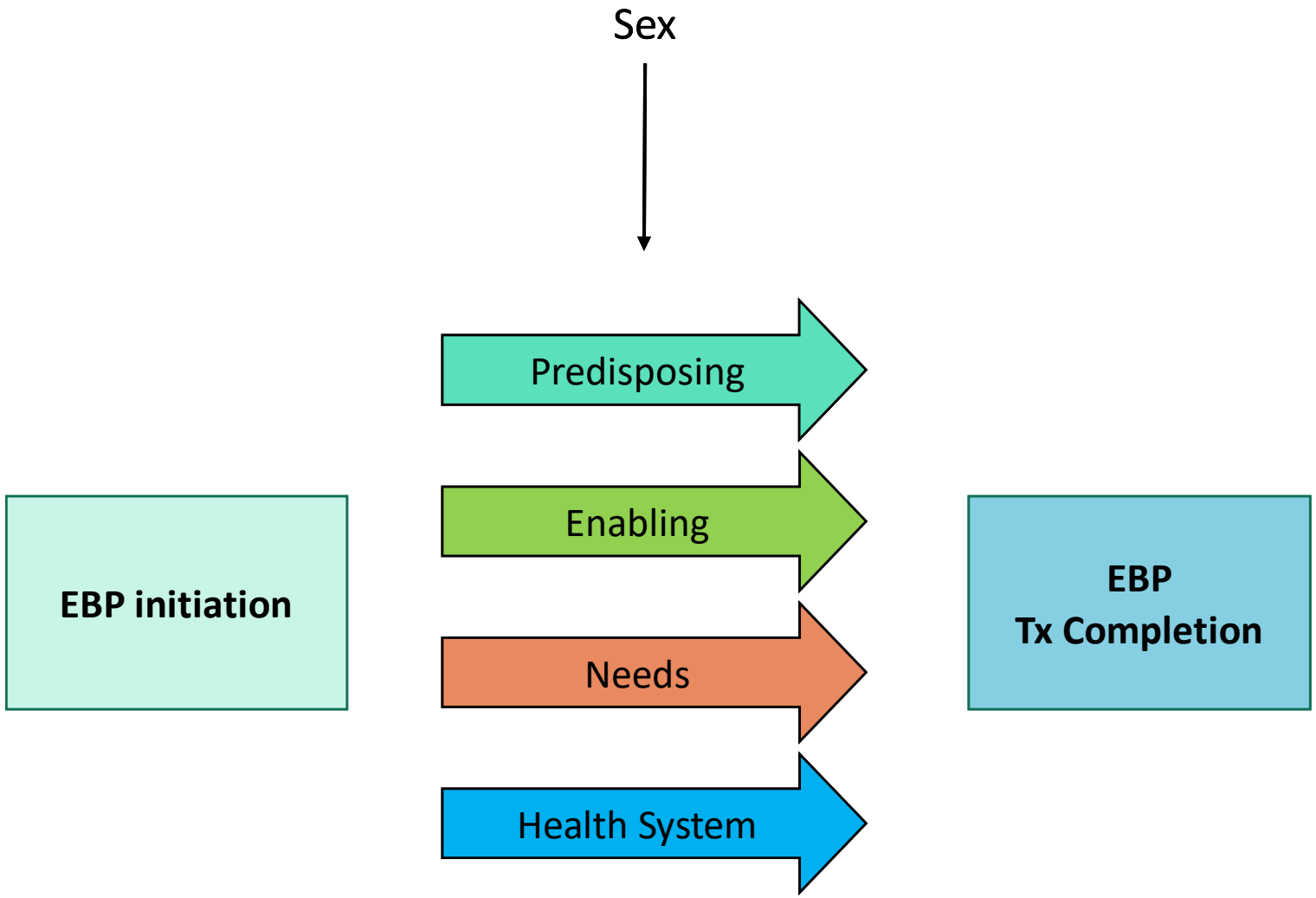
Enabling factors:

- Veteran proximity to health care provider (urban/rural)
- Service connection
- Time since SUD and PTSD diagnosis
- Engagement with SUD specialty clinic

Need factors:

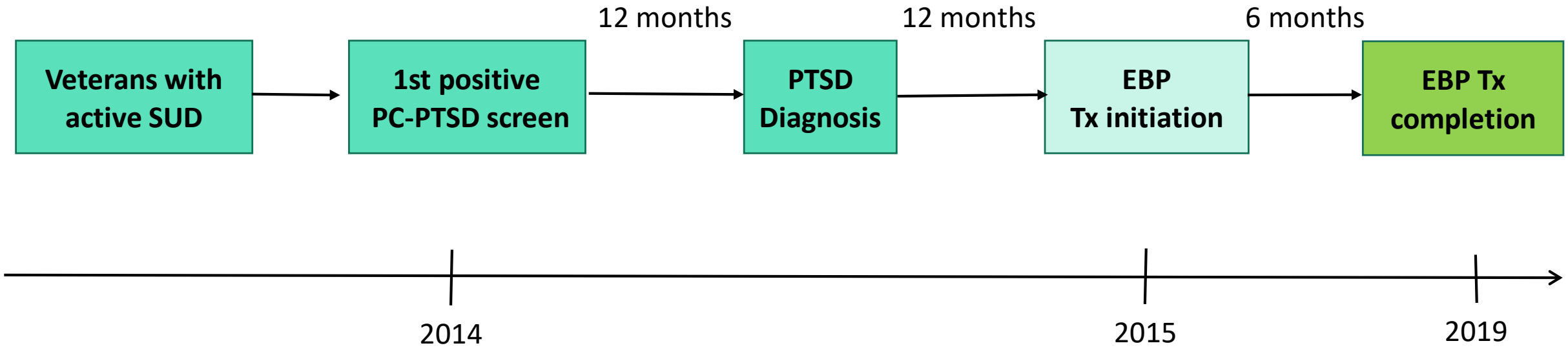
- PTSD, Depression, SUD symptom severity
- Comorbid mental health disorder
  - Anxiety
  - Depression
  - TBI
  - SMI

Are predictors moderated by biological sex?



Inclusion/Exclusion Criteria:

- Active SUD diagnosis
- New positive screen on PC-PTSD
- New diagnosis of PTSD within 1 year of positive PC-PTSD screen
- Engaged in EBP for PTSD within 1 year of new PTSD diagnosis
- Treatment completion = engaged in 8 EBP sessions w/in 6 months



Generalizing the Findings to Clinical Care

Clinical Considerations for Treatment Based on Our Findings

- **Summary:** These data show many VHA clinicians are successfully doing EBPs for Veterans who have co-occurring PTSD-SUD
- **Clinical Considerations:**
  - Consider stabilization factors first
  - Consider doing an EBP for PTSD even if your patient has current/chronic/recurrent SUD
  - VHA-wide use of EBP templates helps improve the accuracy of electronic health record research data (don't cut & paste; be sure to click through the templates)
  - Thanks for using EBP templates!!! ☺
  - More RCTs needed to determine how Veterans with PTSD-SUD benefit from PE & CPT

Limitations

- Very recent OIF/OEF post-911 Veterans, may not generalize
- Large population database makes it difficult to examine certain variables
- Data are very different from RCT data
- “Sick patient bias”
- SUD severity not assessed beyond alcohol
- CPRS data on demographic variables

Are there other research questions that could be answered which would be helpful to your clinical work?

Questions?

- Thank you for listening to our presentation!
- Please feel free to email us if you have any questions, comments, or ideas for our future research:
- Meaghan Lewis, Ph.D. @ meaghan.lewis@va.gov
- Vanessa Somohano, Ph.D. @ vanessa.somohano@va.gov
- David Cameron, MPH @ david.cameron4@va.gov

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